






MICROFLUIDIC SYSTEM INCLUDING A VIRTUAL WALL FLUID INTERFACE PORT FOR INTERFACING FLUIDS WITH THE MICROFLUIDIC SYSTEM





Patent number: EP1412729
Publication date: 2004-04-28
Inventor: BOEHM SEBASTIAN (NL); GILBERT JOHN (US)
Applicant: CYTONOME INC (US)
Classification:
- international: B01D57/02; B01J19/00; B01L3/00; B01L3/02; C12Q1/00; G01N27/447; G01N35/10; B01D57/02; B01J19/00; B01L3/00; B01L3/02; C12Q1/00; G01N27/447; G01N35/10; (IPC1-7): G01N27/00; B01D57/02; B01F5/00; B01J19/00; B01L3/00; B01L3/02; C12Q1/68; G01N27/26; G01N27/447
- european: B01D57/02; B01J19/00R; B01L3/00C6M; B01L3/02D; B01L3/02D2; C12Q1/00; G01N27/447B4; G01N27/447C5; G01N27/447C7
Application number: EP20020737579 20020620
Priority number(s): WO2002US19935 20020620; US20010299515P 20010620; US20010027171 20011221; US20010027484 20011221; US20010027516 20011221; US20010027922 20011221; US20010028852 20011221; US20010029108 20011221

Also published as:

 WO03000418 (A3)
 WO03000418 (A2)
 WO03000417 (A3)
 WO03000417 (A2)
 WO03000416 (A3)

[more >>](#)

Cited documents:

 WO0058724
 US6086825
 US6110332
 WO9915876

[Report a data error here](#)

Abstract not available for EP1412729

Abstract of corresponding document: **WO03000416**

A fluid interface port in a microfluidic system and a method of forming the fluid interface port is provided. The fluid interface port comprises an opening formed in the side wall of a microchannel sized and dimensioned to form a virtual wall when the microchannel is filled with a first liquid. The fluid interface port is utilized to fill the microchannel with a first liquid, to introduce a second liquid into the first liquid and to eject fluid from the microchannel.

Data supplied from the [esp@cenet](#) database - Worldwide

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 January 2003 (03.01.2003)

PCT

(10) International Publication Number
WO 03/000418 A2

- (51) International Patent Classification⁷: **B01L** [DE/NL]; Verbindungsweg 1, NL-2067 EH Bloemendaal (NL). **GILBERT, John** [US/US]; 69 Naples Road, Brookline, MA 02446 (US).
- (21) International Application Number: PCT/US02/19935
- (22) International Filing Date: 20 June 2002 (20.06.2002) (74) Agents: **LAURENTANO, Anthony, A.** et al.; Lahive & Cockfield, LLP, 28 State Street, Boston, MA 02109 (US).
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
- | | | |
|------------|-------------------------------|----|
| 60/299,515 | 20 June 2001 (20.06.2001) | US |
| 10/027,171 | 21 December 2001 (21.12.2001) | US |
| 10/027,484 | 21 December 2001 (21.12.2001) | US |
| 10/027,516 | 21 December 2001 (21.12.2001) | US |
| 10/027,922 | 21 December 2001 (21.12.2001) | US |
| 10/028,852 | 21 December 2001 (21.12.2001) | US |
| 10/029,108 | 21 December 2001 (21.12.2001) | US |
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:
- | | |
|----------|-------------------------------|
| US | 10/028,852 (CIP) |
| Filed on | 21 December 2001 (21.12.2001) |
- (71) Applicant (for all designated States except US): **COVENTOR, INC.** [US/US]; 4001 Weston Parkway, Suite 200, Cary, NC 27513 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **BÖHM, Sebastian**
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MICROFLUIDIC SYSTEM INCLUDING A VIRTUAL WALL FLUID INTERFACE PORT FOR INTERFACING FLUIDS WITH THE MICROFLUIDIC SYSTEM

(57) Abstract: A fluid interface port in a microfluidic system and a method of forming the fluid interface port is provided. The fluid interface port comprises an opening formed in the side wall of a microchannel sized and dimensioned to form a virtual wall when the microchannel is filled with a first liquid. The fluid interface port is utilized to fill the microchannel with a first liquid, to introduce a second liquid into the first liquid and to eject fluid from the microchannel.



WO 03/000418 A2